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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,791	09/22/2006	Alexander Fuchs	FE 6167 (US)	3239
34872 7590 08/07/2009				
Basell USA Inc. Delaware Corporate Center II 2 Righter Parkway, Suite #300 Wilmington, DE 19803				
EXAMINER				
KRYLOVA, IRINA				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
08/07/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/593,791

Applicant(s)

FUCHS ET AL.

Examiner

Irina Krylova

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-37 and 39-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-37 and 39-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date 05/04/09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 05/04/09 have been fully considered.
 2. Cancellation of claim 38 is acknowledged.
 3. Addition of claims 64-70 is acknowledged.
 4. Applicant's arguments, filed on 05/04/09, with respect to rejection of claims 29-63 have been fully considered and are persuasive. All previous rejections of claims 29-63 have been withdrawn.
 5. The new grounds of rejections of claims 29-37, 39-70 are presented below.
- Therefore, the following action is non-final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 29-37, 39-59, 63-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Delaite et al** (US 6,586,528) in view of **Langhauser et al** (US 5,753,773), as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030).

7. As to instant claims 29, 37, 39-41, 58, 59, 64-67, Delaite et al discloses a propylene polymer composition comprising:

1) 55-74 parts by weight of propylene copolymer comprising less or equal to 1% (preferably less than 0.75%) of ethylene units (as to instant claims 64-65);

2) 26-45 parts by weight of propylene copolymer comprising 3.5-15 wt% of ethylene units (as to instant claims 37, 39-40, 66-67) ; wherein the composition comprises MFI being at least 1 g/10 minutes, preferably 3-15 g/10 min (as to instant claim 41, cited in col. 3, lines 60-61), as measured under a load of 2.16 kg at 230°C (7.8-9.7 g/10 min in Table 1) (see col. 2, lines 25-35; col. 7, lines 25-36).

As to instant claim 43, the composition is used for making films, sheets or articles by extrusion or injection molding (see col. 8, lines 29-33; col. 4, lines 10-16).

As to instant claim 44, the article comprising the composition is in form of a film (see claims 17-18).

The polymers of the above composition can be prepared in presence of any catalytic system known to be productive and stereospecific (col. 4, lines 27-29).

8. Delaite et al fails to teach the tensile E modulus of the composition, molar mass distribution Mw/Mn, and fails to specify the polymer composition being produced in the presence of metallocene catalyst.

9. Langhauser et al discloses a propylene composition and films/sheets, fibers, shaped articles made from the composition (col. 1, lines 20-24), wherein the composition comprises:

- 1) 60-80% by weight (see Table) of a copolymer of propylene with 0-5% by weight of C2-C10 alkenes;
- 2) 20-40% by weight (see Table) of a copolymer of propylene with 5-98% by weight of further C2-C10 alkenes;

wherein the composition comprises a melt flow index of from 0.5-50 g/10 min at 230°C under a weight of 2.16 kg (col. 2, lines 12-15); polydispersity (Mw/Mn) in the range of 1.83-2.01 (as to instant claims 69, 70, cited in col. 8, Table) and shear modulus of 515-770 MPa (Table, col. 8).

10. As to instant claims 30, 45, the composition comprises melting temperature in the range 143-145°C (col. 8, Table).

11. As to instant claim 37, the comonomer comprises ethylene (col. 2, lines 1-2).

12. As to claims 43 and 63, though **Langhauser et al** does not specify the method for producing films/sheets, fibers, shaped articles, however, it is known to a one skilled in the art, that these products are produced by processes including extrusion, injection or blow molding.

13. As to claims 32-36, 53-57, the propylene copolymers were produced using metallocene catalyst comprising methyl- or phenylsilane bis (indenyl) zirconium halide derivatives similar to the structure claimed in the present invention (col. 3, lines 25-67- col. 4, lines 1-55). In addition, claims 32-36, 53-57 define the product by how the product was made (using specified catalyst). Thus, claims 32-36, 53-57 are product-by-process claims. For purposes of examination, product-by-process claims are not limited to the manipulation of the recited steps, only the structure implied by the steps. See MPEP 2113. In the present case, the recited steps imply a structure comprising propylene copolymers with olefins, including ethylene. The reference suggests such a product.

14. Since

1) **Delaite et al** discloses a propylene polymer composition and films produced from the composition by extrusion or injection molding, wherein the composition comprises:

a) 55-74 parts by weight of propylene copolymer comprising less or equal to 1% (preferably less than 0.75%) of ethylene units;

b) 26-45 parts by weight of propylene copolymer comprising 3.5-15 wt% of ethylene units; wherein the composition comprises MFI being at least 1 g/10 minutes, preferably 3-15 g/10 min, as measured under a load of 2.16 kg at 230°C, wherein the polymers of the above composition can be prepared in presence of any catalytic system known to be productive and stereospecific. fails to specify the polymers of the composition being

produced in the presence of metallocene catalyst and having a molar mass distribution of 1.5-3.5;

2) **Langhauser et al** discloses a propylene composition and films/sheets, fibers, shaped articles made from the composition, wherein the composition comprises:

a) 60-80% by weight of a copolymer of propylene with 0-5% by weight of C2-C10 alkenes;

b) 20-40% by weight of a copolymer of propylene with 5-98% by weight of further C2-C10 alkenes;

wherein the composition comprises a melt flow index of from 0.5-50 g/10 min at 230°C under a weight of 2.16 kg (col. 2, lines 12-15); polydispersity (Mw/Mn) in the range of 1.83-2.01 and being produced in the presence of the metallocene catalyst;

3) it is known in the art that using metallocene catalysts for polymerization of polyolefins produces a MWD of 2-3.5 (see [0031] of **Job et al**);

4) it is known in the art that metallocene catalysts are stereospecific (see col. 1, lines 11-23 in **Rohrmann et al**),

therefore,

it would have been obvious to a one of ordinary skill in the art at the time of the invention that producing the propylene polymer composition of **Delaite et al** in the presence of metallocene stereospecific catalyst of **Langhauser et al** would produce the propylene polymer composition having a narrow MWD, similar to the MWD of **Langhauser et al**.

15. Since the propylene polymer composition of **Delaite et al** in view of **Langhauser et al** is identical to the composition claimed in the instant invention, having MWD, MFR, melting temperature identical to the corresponding properties claimed in the instant invention, therefore, other properties of the composition of **Delaite et al** in view of **Langhauser et al**, including tensile E modulus, haze, dart impact, WVTR, OTR, carbon dioxide transmission rate, hexane solubility, would intrinsically be identical to the corresponding properties claimed in the instant invention.

16. Claims 29, 31, 42, 44, 46, 48, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Delaite et al** (US 6,586,528) in view of **Langhauser et al** (US 5,753,773), as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030), in further view of **Kawamura et al** (US 2002/0009563).

17. The discussion with respect to **Delaite et al** in US 6,586,528 in view of **Langhauser et al** in US 5,753,773, as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030) set forth in paragraphs 6-15 above, is incorporated here by reference.

18. **Delaite et al** in view of **Langhauser et al** fail to specify tensile modulus and haze of the composition.

19. Kawamura et al discloses a film comprising a mixture of two propylene/ethylene copolymers (A) and (B); being different in the content of the alpha-olefin, wherein the composition is excellent in transparency (see Abstract).

The copolymers (A) and (B) were mixed in different proportions to give different tensile modulus and transparency values (see Table 1).

20. Since such properties as tensile modulus and transparency of the final composition depend on the relative proportions between the propylene/ethylene copolymers having different content of ethylene comonomer and on the content of ethylene comonomer in the copolymers, as evidenced by **Kawamura et al**, such limitations as a) relative proportions between the propylene/ethylene copolymers having different content of ethylene comonomer and b) the content of ethylene comonomer in the copolymers become result effective variables, therefore, it would have been obvious to one skilled in the art at the time of the invention was made, to make variations in the relative proportions between the propylene/ethylene copolymers having different content of ethylene comonomer and in the content of ethylene comonomer in the copolymers to obtain the desired tensile modulus and transparency values. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05 II).

20. Claims 59, 60, 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Delaite et al** (US 6,586,528) in view of **Langhauser et al** (US 5,753,773), as evidenced

by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030), as applied to claim 44 above, in further view of **Henderson** (US 2004/0033349).

21. The discussion with respect to **Delaite et al** in US 6,586,528 in view of **Langhauser et al** in US 5,753,773, as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030) set forth in paragraphs 6-15 above, is incorporated here by reference.

22. Delaite et al in view of **Langhauser et al** fail to teach multilayer structures or laminates comprising propylene copolymer compositions.

23. Henderson discloses a multilayer coextruded structures having good clarity with low haze, wherein one of the layers comprises propylene copolymers or mixture thereof (Abstract). The propylene copolymers comprise 0.2-10% by weight of ethylene ([0036]). Since **Henderson** discloses similar propylene copolymer composition, as **Delaite et al** in view of **Langhauser et al**, but also specifies the use thereof for making multilayer laminates having good clarity, therefore, it would have been obvious to one skilled in the art at the time of the invention was made, to use the composition of **Delaite et al** in view of **Langhauser et al** in the multilayer structures of **Henderson** to produce multilayer laminates having good clarity with low haze.

24. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Delaite et al** (US 6,586,528) in view of **Langhauser et al** (US 5,753,773), as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030), as applied to claim 44 above, and further in view of **Anderson et al** in US 2004/0029469.

25. The discussion with respect to **Delaite et al** in US 6,586,528 in view of **Langhauser et al** in US 5,753,773, as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030) set forth in paragraphs 6-15 above, is incorporated here by reference.

26. Delaite et al in view of **Langhauser et al** fail to teach coated articles comprising propylene copolymer compositions.

27. Anderson et al discloses a moisture vapor permeable composite sheet comprising a substrate and an extrusion coated polyolefin film layer (Abstract). The polyolefin layer comprises propylene copolymers ([0025]).

28. Since **Anderson et al** discloses a coated article comprising a substrate and a propylene copolymer film, similar to **Delaite et al** in view of **Langhauser et al**, having good MVTR, therefore, it would have been obvious to one skilled in the art at the time of the invention was made to use the composition of **Delaite et al** in view of **Langhauser**

et al in the coated article of **Anderson et al**, to produce a coated product with good MVTR.

29. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Delaite et al** (US 6,586,528) in view of **Langhauser et al** (US 5,753,773), as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030), as applied to claim 43 above, in further view of **Agarwal** (US 6,699,543).

30. The discussion with respect to **Delaite et al** in US 6,586,528 in view of **Langhauser et al** in US 5,753,773, as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030) set forth in paragraphs 6-15 above, is incorporated here by reference.

31. **Delaite et al** in view of **Langhauser et al** fail to specify the article produced by the injection molding being a large hollow body.

32. **Agarwal** discloses food containers produced from polypropylene by injection molding (Abstract).

33. Since

1) **Delaite et al** in view of **Langhauser et al** disclose a process for making articles comprising injection molding of the polypropylene composition, but fail to specify the article being a hollow body;

2) **Agarwal** discloses food containers produced from polypropylene by injection molding (Abstract), therefore,

it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use the process of injection molding of the composition of **Delaite et al** in view of **Langhauser et al** for making containers as well.

Response to Arguments

34. Applicant's arguments, filed on 05/04/09, with respect to rejection of claims 29-63, have been fully considered and are persuasive. All rejections of claims 29-63 have been withdrawn.

35. The new rejection of claims 29-37, 39-59, 63-70 under 35 U.S.C. 103(a) as being unpatentable over **Delaite et al** (US 6,586,528) in view of **Langhauser et al** (US 5,753,773), as evidenced by **Job et al** (US 2002/0037979) and **Rohrmann et al** (US 5,103,030) is set forth in paragraphs 6-15 above.

36. Regarding the rejection of claims 29-58 under 35 U.S.C. 102/103 over **Delaite et al** (US 6,586,528), Applicant argues that **Delaite et al** discloses a polymer composition

preferably obtained via Ziegler-Natta catalyst system which are known to produce polymer compositions comprising broad molar mass distribution, whereas the propylene composition of the instant invention is produced using a metallocene catalyst and comprises a narrow MWD.

37. Examiner disagrees.

1) It is noted that the rejection of claims 29-58 under 35 U.S.C. 102/103 over **Delaite et al** is withdrawn, so the arguments are moot in light of the withdrawal.

2) **Delaite et al** clearly states that the propylene composition "can be prepared in presence of any catalytic system known to be productive and stereospecific" (col. 4, lines 27-29). It is known in the art that metallocene catalysts are stereospecific and, therefore, may be used to produce the propylene polymer composition of **Delaite et al**.

3) Examiner agrees that metallocene catalysts produce polypropylene polymers with narrow MWD. Therefore, producing the propylene polymer composition of **Delaite et al** in the presence of metallocene catalyst would lead to the propylene polymers having a narrow MWD.

38. Regarding the rejection of claims 29-58 under 35 U.S.C. 102/103 over **Langhauser et al** (US 5,753,773), Applicant argues that **Langhauser et al** discloses a mixture of polypropylene homopolymer and a propylene/ethylene copolymer, but not the mixture of two propylene/ethylene copolymers, which leads to different properties of the final composition.

39. Examiner disagrees.

1) It is noted that the rejection of claims 29-58 under 35 U.S.C. 102/103 over

Langhauser et al is withdrawn, so the arguments are moot in light of the withdrawal.

2) **Langhauser et al** discloses a propylene composition comprising:

a) 60-80% by weight (see Table) of a copolymer of propylene with 0-5% by weight of C2-C10 alkenes;

b) 20-40% by weight (see Table) of a copolymer of propylene with 5-98% by weight of further C2-C10 alkenes.

Therefore, the composition appears to be a blend of two copolymers as well.

3) Since the relative proportions of the ethylene comonomer in the copolymers of **Langhauser et al** are very broad, and the properties of the propylene copolymers and the final composition, including transparency and elasticity, are significantly dependent on the relative proportion of the ethylene comonomers within the propylene copolymers, therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to make variations in the relative proportions of ethylene comonomer in the copolymers of **Langhauser et al** to ensure the desired level of transparency and elasticity of the final product.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina Krylova/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796

